

## SCIENTIFIC SCRAPS.

The engine of an express train consumes twelve gallons of water for each mile traveled.

An international congress has been arranged at Paris for the discussion of the means of preventing fires in theatres and other places of public resort.

The wave-length of the Roentgen rays, as determined by Her L. Fomm, is 0.000,014 millimeter, which is about one fifteenth of that of the shortest ultra-violet waves yet accurately measured.

Dr. W. D. Abbott of Philadelphia, who has made valuable donations to the Smithsonian Institution, has now given a collection of birds from the Malayan peninsula containing 1100 birds, representing over 200 species.

A resolution has been submitted to the municipal council of Paris requiring families to furnish every two months a medical certificate stating that infants under one year have been cared for in accordance with hygienic rules.

That the white man may live in the tropics safely with proper safeguards against bacteria is the conclusion reached by an Italian physician after years of study. This author regards all tropical diseases, including even sunstroke, as parasitic in origin.

The minimum temperature of visibility has been found by Signor Pettinelli, an Italian physicist, to vary with the size of the heated surface. A surface of 23 square inches at two feet from the eye becomes visible in the dark at 400 degrees C. (690 degrees F.).

The theodolites used at the Blue Hills, Mass., Meteorological Observatory for measuring clouds were lately turned upon a flock of ducks that was flying over. The birds were found to be at a height of 958 feet above the lower station, in the Neponset valley, and were flying at the rate of 47.8 miles an hour.

Meteorological records kept at Edinburgh for one hundred and thirty-eight years show no appreciable change in the climate conditions and nothing approaching weather cycles. Great snowstorms prevailed during the first quarter of this century, and thunderstorms have been unusually frequent in recent years.

A complete racial survey of the living adult population of Switzerland is proposed by Dr. Rudolph Martin of Zurich. The observations of each individual would include measurements 28 in all—with a few simple implements, together with color of hair and eyes, complexion, shape of head, face nose, etc. The object sought is to determine what types among the inhabitants represent pure varieties, and what others indicate hybrid forms.

**A Young Kentuckian's Invention.**  
Thomas B. Dixon, a broad-browed, intellectual-looking young man from Henderson, Ky., has accomplished what nearly all of the great electrical inventors and investigators have failed to do—devised a practical sextuplex system of telegraphing.

All of the tests, made in the presence of several experts, were passed. The sextuplex was worked over a 300-mile circuit, and, with all sides in operation, the sounders responded to the key with marvelous distinctness. Induction is so thoroughly overcome by Mr. Dixon's system that the different sides of the sextuplex worked as promptly and as clearly as a single wire.

Allowing this test of the sextuplex system, which admits of three messages going each way over the same wire, another loop circuit was rigged. This line went from Boston to Buffalo and return, and from Boston to New Haven and return, a distance of about 1800 miles. Then the quadruple feature of the Dixon system was tried and the characters came as clear and clean as the notes of a perfect bell.

No quadruplex system in existence has ever been known to transmit characters clearly on all sides over such a distance of wire without the aid of a repeater at some intermediate station. Tests of the Dixon system have been made in all kinds of weather, and both the quadruplex and the sextuplex, which are embodied in one, work well enough to keep the most nervous sender or receiver in good humor.

Edison is said to be authority for the statement that the use of the quadruplex system has resulted in a saving of \$20,000,000 to one of the great telegraphic companies alone, and in these days of the increasing use of telegraphy Mr. Dixon's invention means the saving of immense sums in wire construction and maintenance.—Boston dispatch to the Pittsburg Dispatch.

### Diet Did It.

"I hear you have been abroad at the celebrated springs taking baths for your gout?"

"Yes."

"Benefit you any?"

"Oh, yes, the board was so poor that I got well."—Chicago Journal.

A Leipziger has invented a machine for the manufacture of book covers, which turns out 550 covers per hour and can be operated by girls.

## An Old Cow Town.

It was one of the jests of the later West to ask a man, "What was your name back in the States?" but this was never seriously done in the cow country of the early times, because it might have been one of the things one would rather have left unsaid. Too much personal curiosity was not good form, and met with many discouragements.

In short, the cow town of the good old times was a gathering of men of most heterogeneous sorts, a mass of particles which could not mix or blend. Of types there were abundance, for each man was a study of himself. He had lived alone, forced to defend himself and to support himself under the most varying and trying circumstances, very often cut off from all manner of human aid or companionship for months at a time. Needing his self-reliance, his self-reliance grew. Forced to be independent, his independence grew. Many of these men had been crowded out of the herd in the States, and had so wandered far away from the original pastures of their fellows. They met in the great and kindly country of the old West a number of these rogues of the herd, and it was a rough sort of herd they made up among themselves. They could not blend; not until again the sweep of the original herd had caught up with them, and perforce taken them in again among its numbers. Then, as they saw the inevitable, as they saw the old West gone forever, leaving no place whither they might wander further, they turned their hands to the ways of civilization and did as best they could.

In many cases they became quiet and useful and diligent citizens, who today resent the raking up of the grotesque features of their past, and have a contempt for the men who try to write about that past with feigned wisdom and unfeigned sensationalism.—The Chautauquan.

### Burglars Stole the Dynamite.

Even dynamite is not safe from burglars in these enterprising times. A few weeks ago 100 pounds of dynamite and 948 cartridges were stolen from the Alfred Noble & Co. factory, Hammerstein, Germany, which is enclosed by a high fence. A reward was offered, but the thieves escaped.

### Baby's Sore Head

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by local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube gets inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed Deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever. Nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

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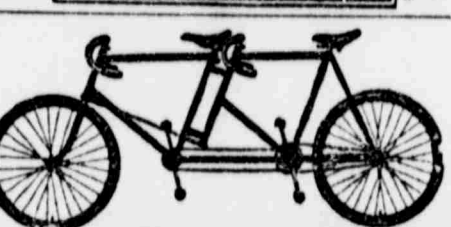
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